Curriculum Vitae

NAME: Bruce Alexander Merrick

ADDRESS: National Institute of Environmental Health Sciences
Division of Intramural Research, Laboratory of Respiratory Biology
Host Defense Group
P. O. Box 12233
Research Triangle Park, NC 27709

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PLACE OF BIRTH: USA, U.S. Citizen

EDUCATION:

Ph.D. Toxicology, 1984
University of Nebraska Medical Center, Omaha, NE.

M.S. Pharmacology, 1980
University of Nebraska Medical Center, Omaha, NE.

B.S. Pharmacy, 1978
College of Pharmacy, University of New Mexico, Albuquerque,NM

B.S. Biology, 1974
University of California, Davis, CA.

EXPERIENCE:

National Institute of Environmental Health Sciences
Division of Intramural Research
P.O. Box 12233, Mail Drop: D2-04
Research Triangle Park, NC 27709

2011 – present, Group Leader; Molecular and Computational Toxicology Group, National Toxicology Program, NIEHS

2010 – 2011 Molecular Toxicologist, Biomolecular Screening Branch, National Toxicology Program, NIEHS

2006 – 2010: Staff Scientist, Host Defense Group, Laboratory of Respiratory Biology, NIEHS

2000 – 2006: Group Leader, Proteomics Group. Proteomics research in National Center for Toxicogenomics program, NIEHS

1992 – 1999: Staff Scientist in Regulatory Proteins Group, NIEHS;

1989 – 1992: Staff Scientist, Carcinogenesis Mechanisms Group, NIEHS

United States Environmental Protection Agency
Health Effects Research Laboratory
26 W. Martin Luther King Drive
Cincinnati, OH 45268

1987 – 1988: Section Chief, Hepatotoxicology Section, Supervisory Pharmacologist
1985 – 1987: Group Leader, In Vitro Toxicology Group,

Oak Ridge National Laboratory
Biology Division
P.O. Box 2008
Oak Ridge, TN 37831

1984 - 1985 - NCI Training Grant Fellow at Biology Division, Oak Ridge National Laboratory, Oak Ridge, TN. Chemical carcinogenesis of PAH.

PATENTS:

U.S. Patent No. 5534121 Awarded July 9, 1996
Title: Preparative Two Dimensional Gel Electrophoresis System.
Inventor: B. Alex Merrick, Ph.D.

PRODUCT LICENSE:

Anti-Grp75 antibodies and standards; licensed to Oxford Biomedical Research, Inc., PO Box 522, Oxford, MI 48371 Catalog 6, 36.

Baculovirus Expression System, rH-p53 to Orbigen, Inc. San Diego, CA.

PROFESSIONAL LICENSE:

Registered Pharmacist, State of Nebraska and State of North Carolina

PROJECT OFFICER:

U.S. Environmental Protection Agency, 1985-1988
Project Officer: "Chemical Interactions in Toxicology"; Cooperative Agreements with University of Arizona and University of Mississippi.

NIEHS, National Center for Toxicogenomics; 2002-2005
Project Officer: Contract No. NIEHS N01-ES25494
"Proteomics Resource for the National Center for Toxicogenomics."

TEACHING EXPERIENCE:

2001 to present: NC State University Toxicology Program; Biochemical Toxicology lecture series.
1978 to 1980: Teaching Assistant: Pharmaceutics I, II; Pharmacy and Dispensing and Compounding. UNMC College of Pharmacy.

ADJUCT FACULTY POSITION:

Associate Professor at North Carolina State University
Department of Environmental and Molecular Toxicology.
Adjunct Faculty Associate Professor Appointment: 2001 to present.

MENTORING:

Post-doctoral Fellows:

Charlesene McNeil-Blue, Ph.D.
2003-2006
McNeil-Blue, Ph.D. Clark Atlanta University, Atlanta, GA, Dept of Biology
Project Title: Role of p53 in apoptosis in Parkinson's disease and neurodegenerative disorders.

Barbara A. Wetmore, Ph.D.
2000-2005.
NC State University, Raleigh, NC Dept of Environmental and Molecular Toxicology
Project Title: P53 phosphorylation in Growth Arrest and Apoptosis
Employed as Research Scientist at Alion, RTP, NC.

PhD:
2003-2007; PhD Awarded, April 2007
Christopher Brynczka, NC State University, Raleigh, NC Dept of Environmental and Molecular Toxicology
Project Title: p53 transcriptional regulation in apoptosis of neurodegenerative disease.

STEP Undergraduate Student Trainees:
Lora Long Witcher, 1990-1993
Miki Pence-Pawlowski 1993-1995
Vicky R. Walker 1995-1996
Jennifer Hartis 1999-2001

Ph.D. Committee Member:
NC State University; Department of Environmental and Molecular Toxicology
Minsub Shim 2003, Ph.D. Degree
Elizabeth McKenzie, Ph.D. Committee; 2002 to present.
Sherry Grissom, M.S. Committee; 2004
Jennifer H. Madenspacher, M.S. Committee; 2005

PROFESSIONAL SOCIETIES:

Society of Toxicology, Full Member, 1984 to present.
American Association of Cancer Research, Full Member 1990 to 2007
Society for Neuroscience, 2002 to 2007.

EDITORIAL BOARD:

Environmental Health Perspectives
2004 to current
Briefings in Functional Genomics and Proteomics
2003 to 2009
BioMolecular Engineering
2004 to 2006
Reviews in Mutation Research
2001 to current
Fundamental and Applied Toxicology
1990 to 1996

AD HOC JOURNAL REVIEWER:

Proteomics
Journal of Proteomics Research
Toxicology and Applied Pharmacology
Cancer Research
J. Pharmacology and Experimental Therapeutics
Biochemical Pharmacology
BioTechniques
Electrophoresis
Journal of Toxicological Sciences
In Vitro Toxicology
Proteomics
Biochimie
Molecular Pharmacology
Oncogene

INVITED SPEAKER:

Experimental Biology 2008 Meeting, ASPET/FASEB sponsor; Invited Speaker to Symposium on Inflammation: Early Disease Marker, Drug Response Modifer, Therapeutic Target *Chair(s):* Donald Miller/Daniel Sitar
Seminar Title: "Omics-based discovery of inflammation markers as diagnostic tools in drug discovery and disease"
April 5-9, 2008; San Diego CA.

HUPO 2007, 6th International Congress; Invited Speaker and Session Chair of Symposium 19: Nutri- and Toxicoproteomics,
Seminar Title: "Toxicoproteomics and target discovery tools in tissue injury and inflammation".
Seoul, South Korea; October 6-10, 2007

Collegium Ramazzini: 3rd International Scientific Conference: Framing the Future in Light of the Past: Living in a Chemical World.
Seminar Title: "Gene and Protein Protein Profiling in Experimental Liver Injury and Inflammation"
September 18-21, 2005, Bologna, Italy

9th ICEM –International Conference on Environmental Mutagens - Satellite Meeting on Toxicogenomics.
Seminar Title: "Toxicoproteomic Biomarkers and Signatures of Hepatic Injury"
August 30-September 2, 2005, Kauai, Hawaii

West Virginia University Systems Biology Initiative and CIIT Centers for Health Research:
"2005 Conference on: The Application of Systems Biology Methodologies to Environmental Research".
Seminar Title: "Effect of TCDD on the rat microsomal proteome"
Seminar Title: "Building toxicogenomics knowledge with the chemical effect in biological systems (CEBS) knowledgebase".
August 1-3, 2005; West Virginia University

American Association for the Study of Liver Diseases (AASLD) 2005
Basic Research Single Topic Conference: “Exploring the Functional Genomics and Proteomics of Liver in Health and Diseases”.
Seminar Title: “Proteomic Profiling of Serum and Liver in Experimental Animals and Humans After Acetaminophen Exposure” June 3-5, 2005; Airllie Center, Warrenton, VA

SOT 2005 Annual Meeting
Minisymposium: "Proteomics and Antibody Microarrays: Applications in Toxicology". Seminar Title: "Proteomic analysis of serum proteins during acute acetaminophen toxicity in rats reveals acute phase and antioxidant response.”
March 6-10, 2005; New Orleans, LA.

University of Florida, Gainesville
Invited Seminar sponsored by the Genetics Institute and Interdisciplinary Toxicology Program. Host: Nancy Denslow
Seminar Title: “Toxicoproteomic profiling of serum proteins in animals and humans after acetaminophen exposure”.
February 1, 2005;

Society for Risk Analysis 2004 Annual Meeting
Symposium: Recent Developments in Risk Assessment Science and Technology, Chaired by Susan Poulter, Risk Science and Law Speciaty Group
Seminar Title: “The impact of toxicogenomics on public policy, risk assessment and regulation”.
December 5-8, 2004; Palm Springs, CA.

Merck Distinguished Research Seminar
Merck Research Center, San Diego, CA
Host: George N. Nikov, Ph.D.
Seminar Title: p53 in growth regulation and apoptosis.
October 12-13, 2004.

“Toxicogenomics International Forum 2004” sponsored by Center for Biological Safety and Research, National Institute of Health Science, Japan.
Seminar Title: “Toxicoproteomics of Liver Injury and Inflammation”.
October 11-13, 2004; Kyoto, Japan;

SELDI User’s Group Meeting at Duke University
Seminar Title: “Use of SELDI Analysis in Classifying Acute Inflammation in Experimental Animals as a Prelude to Clinical Studies”
October 7, 2004, Duke University, Durham, NC

ISSX 2004 Symposium, Organizer and Speaker
Sympsosium Title: “High Throughput Proteomics in Xenobiotic Toxicity”.
Seminar Title: “Toxicoproteomic analysis of hepatotoxicants in necrosis and inflammation.”
August 28-Sept 2, 2004; Vancouver, BC, Canada

10^{th} International Congress of Toxicology – ICTX 2004
Session S15: “Toxicogenomics and Proteomics of the Liver” Session Co-Chairman and Speaker. Co-Chair: Jos Kleinjans, The Netherlands National Toxicogenomics Centre (NTC)

Seminar Title: “Gene and protein expression profiling of rat liver and subcellular fractions after subacute exposure to metabolic inducers, phenobarbital, oxazepam and Wyeth 14,643”
July 11-15, 2004; Tampere, Finland.

University of Arizona, Department of Pharmacology and Toxicology and Chemical/Chromatin Interactions Research Core. Hosts: TJ Monks and D Rompagnolo
Seminar Title: “Toxicoproteomic Studies in Hepatic Injury and Inflammation”
April 27, 2004; Tucson, AZ.

U.S. – Japan Cooperative Medical Science Program:
Environmental Genomics and Carcinogenesis Panel
Session I. Gene Expression, Proteins, Chemicals and Cancer
Seminar Title: “Toxicoproteomic Analysis of Liver and Serum during Hepatotoxicity”
January 22 – January 24, 2004; Oahu, Hawaii;

American Industrial Hygiene Association, Annual Meeting
Roundtable: “New Venues for industrial hygienists: Using Biological Monitoring to Uncover the Health Impact of Environmental Toxicants”.
Seminar Title: “Toxicoproteomic Analysis of Liver Toxicity after Chemical Exposure”
May 11, 2004; Atalanta, GA.

Pacific Northwest National Laboratory (PNNL)
Seminar Title: “Toxicoproteomics of liver and serum in hepatotoxicity.”
February 19-21, 2004; Richland, WA.

“IPCS Workshop on Toxicogenomics and the Risk Assessment of Chemicals For the Protection of Human Health” sponsored by WHO-IPCS (World Health Organization - International Programme on Chemical Safety.
University of Berlin School of Public Health
Seminar Title: “The National Center for Toxicogenomics: Program Update and Development of the CEBS Database for Toxicogenomics Research”.
November 17-19, 2003; Berlin, Germany.

Federazione Italiana Scienze della Vita Meeting,. Invited speaker to Minisymposium “Gene-environment interactions”
Seminar Title: "Toxicogenomics of Hepatotoxicity: Gene and Protein Expression Studies”. October 10-13, 2003, Rimini, Italy

Toxicology of Natural Products Symposium, sponsored by US FDA
Seminar Title: “Toxicoproteomics of Hepatotoxicants”
September, 8-9, 2003; NIH Bethesda, MD.

Gordon Conference: “Toxicogenomics” Bates College, ME,
Seminar Title: “Proteomic Analysis of Hepatotoxic Agents: Investigation of Subcellular and Serum Proteomes”
June 22-27, 2003; Lewiston, ME

Human Proteome Organization (HUPO) Workshop on the Human Liver Proteome.
Seminar Title: “Standards and Technologies in Proteomics”.
July 17-18, 2003; NIH Bethesda, MD.

Society of Toxicology Symposium: Invited speaker.
Seminar Title: “Conducting Parallel Genomics and Proteomics Studies: Comparative Responses in Gene Expression.” at the 42nd Annual Meeting of the
March 9-13, 2003; SOT, Nashville, TN.

Human Proteome Organization (HUPO) Workshop on the Human Liver Proteome.
Seminar Title: “Liver Response to Environmental Toxicants Analyzed by Proteomics at NIEHS”.
October 21-24, 2002, Beijing, China.

UNC Chapel Hill Department of Biochemistry Seminar Series:
Seminar Title: "Proteomics as a Tool for Discovery: Metabolic Enyzme Inducers and Subcellular Localization"
Host: C Borchers.
October 9, 2001, UNC Chapel Hill, NC.

American Association Advancement of Science, 2001 Meeting
Symposium: Approaches in Functional Genomics: Rewards and Challenges.
Organizer: Francoise Seillier-Moiseiwitsch, UNC, Chapel Hill, NC
Seminar Title: Proteomic Analysis as a Tool for Pathway Discovery.
March 15-20, 2001; San Francisco, CA.

International Society for Study of Xenobiotics Annual Meeting, ISSX 2000;
Symposium: Pharmacodynamics and Biomarkers. Organizer: JM Collins, FDA Rockville, MD
Seminar Title: “National Center for Toxicogenomics: A New NIEHS Initiative for Toxicology and Biomarker Research”
October 24-28, 2000; Indianapolis, IN.

U.S. EPA, NHEERL, Research Triangle Park, NC
Seminar Title: “Proteomics at NIEHS: Hepatic Effects of TCDD as a Pilot Study"..
Host: K. Dreher, Experimental Toxicology Division
September, 28, 2000; Research Triangle Park, NC.

U.S. EPA, NHEERL, Research Triangle Park, NC
Seminar Title: “Proteomics in a Gene Expression Center: Applications to Environmental Toxicology”.
Host: D. Dix, Reproductive Toxicology Division
February 24, 2000, Research Triangle Park, NC.

Professional Program Activities:

Reviewer: NC Biotechnology Center, Biotechnology Research Grant Review Panel. November 3, 2010

Reviewer: Proteomics Program in Molecular Profiling; Pfizer Pharmaceutical Company, Ann Arbor, MI
September 24-25, 2006.

Reviewer for: NIH National Cancer Institute Grant Study Section: NCI RFA-CA-07-012 "Clinical Proteomic Technology Assessment for Cancer."

Silver Springs, Maryland
July 19,20, 2006

Reviewer for: Pacific Northwest National Laboratories Proposals.
PNNL LDRD Proposal Title: "Signatures of Oxidative Stress Associated with Inhaled Particulate Matter", Contact: Flor Cuevas, PNNL, Richmond, OR.
September, 2005.

Reviewer for: Genome Canada Competition III; External Reviewer of Large Scale Project.
Project Title: "Proteomics of Hepatitis C Models" by J Bergeron and M Tremblay; JoAnn J. Crichlow
April 15, 2005

Reviewer for: The Dutch Technology STW Foundation; the Netherlands Organisation for Scientific Research, NWO, and the Dutch Ministry of Economic Affairs.
Project Title: "WPB.6718: Cell-type specific proteomics; a general strategy for high throughput protein discovery"
by Dr. A.R. van der Krol; Wageningen, Netherlands
November, 2004

Reviewer for: Pennsylvania Department of Health Performance Reviews of Genomics and Proteomics Initiatives
April 23, 2004.

"The Human Proteome Roadmap" HUPO Workshop; participant
Sponsored by NIH, FDA and HUPO.
April 22, 2004; Bethesda, MD.

USEPA Science Advisory Board
"Consultation on Computational Toxicology Framework (CTF)"
US EPA; Wash DC; Consultant
September 5, 2003, Washington, DC.

Reviewer for: European Science Foundation: Exploratory Workshop. .
Workshop Title: "Microarray and Proteomic application to the Ecotoxicology".
Contact: Jane Swift; Life and Environmental Sciences Unit, ESF 1 quai Lezoy-Marnesia 67080 Strasbourg cedex France.
September, 2003

Reviewer for: Pacific Northwest National Laboratories Proposals.
PNNL LDRD Proposal Title: "Array Technologies for Quantification of Proteins" by R Zangar, Contact: Marla J. Sequin, PNNL, Richmond, OR.
August, 2003.

HUPO, Human Proteome Organization
Human Liver Proteome Project (HLPP) Workshop. Plan and participate in international Liver Proteomics studies and initiatives.
Workshop Meeting at NIH, Bethesda, MD
July 17-18, 2003.

ILSI-HESI (International Life Sciences Institute – Health Environmental Science Institute)
Member of Biomarkers and Proteomics Leadership Subcommittee. Participate in planning for national cooperative studies on Biomarkers and Proteomics in Toxicology.

Washington, DC; 2001 to 2003,

HUPO, Human Proteome Organization
Cell Models Subcommittee: Human Liver Proteome Leadership Group. Plan and participate in international Liver Proteomics studies and initiatives.
Seminar: "Toxicogenomic studies if liver toxicants."
Workshop Meeting in Beijing, China;
November 21-24, 2002.

HUPO, Human Proteome Organization
Plasma Proteome Group. Plan and participate in international studies and initiatives on the Plasma Proteome.
Workshop Meeting, Ann Arbor, MI
September 5-6, 2002

SOT 2002, Annual Meeting Course Organizer for SOT Continuing Education Series: CE Course Title: PM#12: "Toxicity Profiling of Genes and Proteins by Toxicologists: Advanced Topics in Toxicogenomics".
March 17-21, 2002; Nashville, TN.

NIEHS COMMITTEES:

Assembly of Scientists: Elected Board Member, 2003-2005.
Animal Care and Use Committee Member; 1999-present
MOATS: Media and Glassware Advisory Committee, Head 1996-2000, Headed effort to develop MOATS automated ordering system for media.
NIEHS Property Committee; 1999-2000; helped develop PMIS automated property management system.
Chairman, Property Disposal Committee, 2004 - 2006
NIEHS Focus Group for Heath and Radiation Safety; 1995

PUBLICATIONS:

84. **Merrick, B.A**., Dhungana, S., Williams, J.G., Aloor, J.J., Peddada, S., Tomer, K.B. and Fessler M.B. Proteomic profiling of S-acylated macrophage proteins identifies a role for palmitoylation in mitochondrial targeting of phospholipid scramblase 3. Mol. Cell Proteomics In Press, 2011 [PMID: 21785166]

83. Smoak, K.A., Aloor, J.J., Madenspacher, J.H., **Merrick, B.A.**, Collins, J. Hollingsworth, J., Zhu, X., Cavigiolio, G., Oda, M.N., Parks, J.S., Fessler, M.B. Myeloid differentiation primary response protein 88 couples reverse cholesterol transport to inflammation. Cell Metabolism 11:493-502, 2010

82. **Merrick, B.A.** and Witzmann, F.A. The role of toxicoproteomics in assessing organ specific toxicity. EXS (Experientia Supplementum) 99:367-400, 2009.

81. Dhungana, S., **Merrick, B.A.,** Tomer, K.B. and Fessler, M.B. Quantitative proteomic analysis of macrophage rafts reveals compartmentalized activation of the proteasome and of proteasome-mediated ERK activation in response to lipopolysaccharide Mol Cell Proteomics 8:201-213, 2009.

80. **Merrick, B.A.** The plasma proteome, adductome and idiosyncratic toxicity in toxico-proteomics research. Briefings in Functional Genomics and Proteomics 7:35-49, 2008.

79. Lobenhofer E.K., Auman J.T., Blackshear P.E., Boorman G.A., Bushel, P.R. Cunningham, M.L., Fostel, J.M., Gerrish, K., Heinloth, A.N., Irwin, R.D., Malarkey, D.E., **Merrick, B.A.**, Sieber, S.O., Tucker, C.J., Ward, S.M., Wilson, R.E., Hurban, P., Tennant, R.W. and Paules, R.S. Gene expression response in target organ and whole blood varies as a function of target organ injury phenotype. Genome Biology 9:R100, 2008

78. Brynczka, C. and **Merrick, B.A.** The p53 transcriptional target gene *wnt7b* mediates NGF-inducible neurite outgrowth in neuronal PC12 cells. Differentiation 76:795-808, 2008

77. Waters, M., Stasiewicz S,, **Merrick B.A.**, Tomer, K., Bushel, P., Paules, R., Stegman, N., Nehls, G., Yost, K.J., Johnson, C.H., Gustafson, S.F., Xirasagar, S., Xiao, N., Huang, C-C., Boyer, P., Chan, D.D., Pan, Q., Gong, H., Taylor, J., Fostel, J., Choi, D., Rashid, A., Ahmed, A., Howle, R., Selkirk, J., Tennant, R. CEBS: Chemical Effects in Biological Systems. A public data repository integ-rating study design and toxicity data with microarray and proteomics data. Nucl Acids Res. 36:D892-900, 2008

76. Brynczka, C. and **Merrick, B.A.** Nerve growth factor potentiates p53 DNA binding but inhibits nitric oxide-induced apoptosis in neuronal PC12 cells. Neurochemical Research 32:1573-1585, 2007

75. Brynczka, C., Labhart, P. and **Merrick, B.A.** NGF-mediated transcriptional targets of p53 in PC12 neuronal differentiation BMC Genomics 8:139 2007.

74. McNeill-Blue, C., Wetmore, B.A., Sanchez J.F., Freed, W.J. and **Merrick, B.A.** Apoptosis mediated by p53 in rat neural AF5 cells following treatment with hydrogen peroxide and staurosporine. Brain Res 1112:1-15, 2006

73. **Merrick, B.A.** Toxicoproteomics in liver injury. Ann NY Acad Sci 1076:707-717, 2006.

72. **Merrick, B.A.**, Bruno, M.E., Madenspacher, J.H., Wetmore, B.A. Foley, J., Pieper, R., Zhao, M., Makusky, A.J., McGrath, A.M., Zhou, J.X., Taylor, J. and Tomer, K.B. Alterations in the Rat Serum Proteome During Liver Injury from Acetaminophen Exposure. J Pharmacol Exptl Therap 318:792-802, 2006

71. Xirasagar S., Gustafson, S.F., Huang C-C, Pan Q., Fostel J.M., Boyer P., **Merrick, B.A.**, Tomer, K.B.; Stasiewicz S., Chan, D.D., Yost K.J. III, Choi D., Xiao N., Bushel P.R. and Waters M.D. Chemical Effects in Biological Systems (CEBS) Object Model for Toxicology Data, SysTox-OM: Design, Implementation, and Application. Bioinformatics 22:874-882, 2006

70. Liu, J., Xie, Y., **Merrick, B.A.,** Shen, J., Ducharme, D., Collins, J., Diwan, B.A., Logsdon, D. and Waalkes, M.P. Transplacental arsenic plus postnatal 12-O-teradecanoyl phorbol-13-acetate exposures associated with hepatocarcinogenesis induce similar aberrant gene expression patterns in male and female mouse liver. Toxicol Appl Pharmacol 213:216-23, 2006.

69. Liu, J., Xie, Y., Ducharme, D., Shen, J., Bhalchandra, A. Diwan, B.A., **Merrick, B.A.**, Grissom, S.F., Tucker, C.J., Paules, R.S., Tennant, R.W. and Waalkes, M.P. Global Gene Expression Associated with Hepatocarcinogenesis in Adult Male Mice Induced by *in Utero* Arsenic Exposure Environ Health Perspect. 114:404-411, 2006.

68. Fostel J., Choi, D., Zwickl, C., Morrison N., Rashid A., Hasan A., Wenjun B., Richard A., Tong W., Bushel P., Brown R., Bruno M., Cunningham, M., Dix D., Eastin S., Frade C., Garcia A., Heinloth A., Irwin R., Madenspacher J., **Merrick B.A.**, Papoian T., Paules R.S.,

Rocca-Serra P., Sansone S., Stevens J., Tennant R.W., Tomer K., Yang C. and Waters M.D. Chemical effects in biological systems – data dictionary (CEBS-DD): A compendium of terms for the capture and integration of biological study design description, conventional phenotypes and 'Omics data. Toxicol Sci. 88:585-601, 2005

67. **Merrick, B.A.** and Madenspacher, J.H. Complementary gene and protein expression studies and integrative approaches in toxicogenomics. Toxicol. Appl. Pharmacol. 207:189-194, 2005

66. Fannin R.D., Auman J.T., Bruno M.E., Sieber S.O., Ward S.M., Tucker C.J., **Merrick B.A.**, Paules R.S. Differential gene expression profiling in whole blood during acute systemic inflammation in lipopolysaccharide-treated rats. Physiol Genomics. 21:92-104, 2005.

65. **Merrick, B.A.** and Bruno, M.E. Genomic and proteomic profiling for biomarkers and signature profiles of toxicity. Curr. Opin. Molec. Therap. 6:600-607, 2004.

64. Wetmore, B.A. and **Merrick, B.A.** Toxicoproteomics: Proteomics Applied to Toxicology and Pathology. Toxicol. Pathol. 32:619-642, 2004

63. Lobenhofer, E.K., Cui, X., Bennett, L., Cable, P.L., **Merrick, B.A.**, Churchill, G. A. and Afshari, C.A. Exploration of Low Dose Estrogen Effects: Identification of No Observed Transcriptional Effect Level (NOTEL). Toxicol. Pathol. 32:482-492, 2004

62. Xirasagar, S., Gustafson, S., **Merrick, B.A**., Tomer, K.B., Stasiewicz, S., Chan, D.D., Yost, K.J., Yates, J.R., Xiao, N., and Waters, M.D. CEBS object model for systems biology data: SysBio-OM Bioinformatics: 20:2004-15, 2004

61. **Merrick, B.A.** and Tomer, K.B. Toxicoproteomics: A parallel approach to identifying biomarkers. Environ Health Perpspec 111:A578-579, 2003.

60. Waters, M, Boorman, G., Bushel, P., Cunningham, M., Irwin, R., **Merrick, B.,** Olden, K., Paules, R., Selkirk, J., Stasiewicz, S., Weis, B., Van Houten, B., Walker, N. and Tennant, R.
Systems toxicology and the Chemical Effects in Biological Systems (CEBS) knowledge base. Environ. Health Perspect. 111:811-824, 2003.

59. **Merrick, B.A.** The Human Proteome Organization, (HUPO), and Environmental Health. Environ. Health Perspect. Toxicogenomics 111:797-801 2003.

58. Iida, M., Anna, C., Hartis, J.E., Wetmore, B.A., Bruno, M.E., Dubin, J., Sieber, S., Bennett, L., Cunningham, M., Paules, R., Tomer, K.B., **Merrick, A.B.**, Sills, R.C. and Devereux, T.R. Changes in global gene and protein expression during early mouse liver Carcinogenesis induced by non-genotoxic model carcinogens oxazepam and Wyeth-14,643. Carcinogenesis. 24:757-70, 2003 *(Please note listed A.B. Merrick)*

57. Bruno, M.E., Borchers, C.H., Dial, M.J., Walker, N.J., Hartis, J.E., Wetmore, B.A., Barrett, J.C., Tomer, K.B. and **Merrick, B.A.** Effects of TCDD upon IκB and IKK subunits localized in microsomes by proteomics. Arch. Biochem. Biophys. 406:153-164, 2002

56. Chen, H., Liu, J., Zhao, C.Q., Diwan, B.A., **Merrick, B.A.** and Waalkes, M.P. Association of c-*myc* over-expression and hyperproliferation with arsenite-induced malignant transformation. Toxicol Appl Pharmacol. 175:260-8, 2001

55. Cobbs, C.S., Samanta, M., Harkins, L., Gillespie, G.Y., **Merrick, B.A.** and MacMillan-Crow, L.-A. Evidence for peroxynitrite-mediated modifications to p53 in human gliomas: possible functional consequences. Arch Biochem Biophys. 394:167-72, 2001

54. **Merrick, B.A.,** Zhou, W., Martin , K.J., Jeyarajah, S., Parker, C.E., Selkirk, J.K., Tomer, K.B., and Borchers, C.H. Site-specific phosphorylation of human p53 protein determined by mass spectrometry. Biochemistry, 40:4053-4066, 2001

53. Chen, H., Liu, J., **Merrick, B.A.** and Waalkes, M.P. Genetic events associated with arsenic-induced malignant transformation: applications of cDNA microarray technology. Mol. Carcinogenesis. 30:79-87, 2001

52. Zhou, W., **Merrick, B.A.**, Khaledi, M.G. and Tomer, K.B. Detection and sequencing of phosphopeptides affinity bound to immobilized metal ion beads by matrix-assisted laser desorption/ionization mass spectrometry. J. Am. Soc. Mass Spectrom. 22:273-282, 2000.

51. Zhao, W., He, C., Rotter, V., **Merrick, B.A.** and Selkirk, J.K. An intragenic deletion of nuclear localization signal-1 of p53 tumor suppressor gene results in loss of apoptosis in murine fibroblasts. Canc. Lett. 147:101-108, 1999.

50. **Merrick, B.A.**, Walker, V. R., He, C., Patterson, R.M. and Selkirk, J.K. Induction of novel Grp75 isoforms by 2-deoxyglucose in human and murine fibroblasts. Cancer Lett. 119:185-190, 1997.

49. Isaacs, J.S., Chiao, C., **Merrick, B.A.**, Selkirk, J.K., Barrett, J.C. and Weissman, B.E. p53-dependent p21 induction following gamma-irradiation without concomitant p53 induction in a human peripheral neuroepithelioma cell line. Cancer Research 57:2986-2992, 1997.

48. Selkirk, J.K., He, C., Patterson, R.M. and **Merrick, B.A.** Tumor suppressor p53 gene forms multiple isoforms: evidence for single locus origin and cytoplasmic complex formation with heat shock proteins. Electrophoresis 17:1764-1777, 1996.

47. **Merrick, B. A.**, He, C. Witcher, L.L., Patterson, R.M. Reid, J.J., Pence-Pawlowski, P.M. and Selkirk, J.K. HSP binding and mitochondrial localization of p53 protein in human HT1080 and mouse C3H10T1/2 cell lines. Biochem. Biophys. ACTA 1297:57-68, 1996.

46. Patterson, R.M., He, C., Selkirk, J.K. and **Merrick, B. A.** Human p53 expressed in baculovirus infected sf9 cells displays a two-dimensional isoform pattern identical to wild type p53 from human cells. Arch. Biochem. Biophys. 330:71-79, 1996.

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